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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,850	02/22/2002	Toshio Inaji	56937-047	7536

7590 04/26/2005

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EXAMINER	
RODRIGUEZ, GLENDA P	
ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/079,850	INAJI ET AL.	
	Examiner	Art Unit	
	Glenda P. Rodriguez	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6,7,9,10,12,13,18,19 and 21* is/are rejected.

7)☒ Claim(s) *2,5,8,11,14,17 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 7, 10, 13, 16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Patton et al. (US Patent No. 5, 654, 840).

Regarding Claim 1 and 4, Patton et al. teach a disk storage apparatus comprising:

An actuator for positioning a head with respect to a disk (Col. 4, L. 64-67);

A drive section for driving said actuator (Col. 1, L. 50-67);

A position detection section for producing position error information corresponding to the current position of said head from servo information which has been previously recorded on said disk and is detected by said head (Col. 6, L. 10-40);

A position control section for producing position control information corresponding to the position error information by said position detection section (Col. 6, L. 10-40);

A voltage detection section for detecting a voltage generated in driving said actuator and outputting a voltage signal (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 9, L. 63-Col. 10, L. 9 and Col. 10, L. 58-67);

A disturbance estimation section estimating the magnitude of a disturbance exerted on said head from the voltage by said voltage detection section and a drive signal from said drive section, and producing disturbance estimation information signal (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 8, L. 56-65);

A correction section for correcting the position control information by said position control section with the disturbance estimation information by disturbance estimation information by said disturbance estimation section and producing said drive signal (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 8, L. 56-65. Patton et al. indicates that it calculates the position error signal, signifying the amount the head is off-track and how much the head has to move to be in the track centerline.); and

A disturbance monitor section for monitoring the disturbance estimation information by said disturbance estimation section, and prohibiting a record by said head said disturbance estimation information exceeds an allowable range (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 9, L. 63-Col. 10, L. 9 and Col. 10, L. 58-67).

Regarding Claims 7, 10, 13, 16 and 19, Patton et al. teach a disk storage apparatus comprising:

An actuator for positioning a head with respect to a disk (Col. 4, L. 64-67);

A drive section driving said actuator (Col. 1, L. 50-67);

A voltage detection section for detecting a voltage generated in driving actuator, and outputting a voltage signal (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 9, L. 63-Col. 10, L. 9 and Col. 10, L. 58-67);

A position detection section for producing position error information corresponding to the current position of said head from servo information which has been previously recorded on said disk and is detected by said head (Col. 6, L. 10-40);

A velocity/disturbance estimation section for estimating a head moving velocity and the magnitude of a disturbance exerted on said head from the voltage signal by said voltage detection section and from a drive signal in said drive section, and producing velocity estimation information and disturbance estimation information (Col. 6, L. 39-54);

A position control section for producing position control information corresponding in principle to the position information by said position detection section and adding the velocity estimation information by said velocity/disturbance estimation section to said position error information according to conditions produce control information (Col. 6, L. 10-40);

A correction section for correcting the position control information by said position control section with disturbance estimation information by said velocity/disturbance estimation section and producing said drive signal (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 8, L. 56-65. Patton et al.

indicates that it calculates the position error signal, signifying the amount the head is off-track and how much the head has to move to be in the track centerline.);

A disturbance monitor section for monitoring the disturbance estimation information by said velocity/disturbance said disturbance estimation information exceeds an allowable range, making valid said velocity estimation information with respect to said position error information in said position control section (Col. 6, L. 55-67 and Col. 7, L. 27-39 and L. 50-60 and Col. 9, L. 63-Col. 10, L. 9 and Col. 10, L. 58-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3, 6, 9, 12, 15, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patton et al. in view of Codilian (US Patent No. 6, 714, 371). Patton et al. teach all the limitations of Claim 1, 4, 7, 10, 13, 16 and 19, respectively. However, Patton et al. does not explicitly teach wherein the apparatus set at a value larger than the control band of said disturbance estimation section is set at a value larger than the control band of said position control section. Codilian. teach wherein the apparatus set at a value larger than the control band of said disturbance estimation section is set at a value larger than the control band of said position control section (Step 20 in Fig. 1, wherein Codilian verifies that the WUS (which is used to inhibit writing) is less that the error position signal). It would have been obvious to a person

of ordinary skill in the art, at the time the invention was made, to modify Patton et al.'s invention with the teaching of Codilian in order to detect shock events in the disk apparatus.

Allowable Subject Matter

Claims 2, 5, 8, 11, 14, 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the primary reason for indicating allowable subject matter is the inclusion of the limitation wherein a second integration section subtracts the added value of the output of the second multiplication section and the output of the first integration section and the comparison section compares the voltage signal with the output of the second integration section and outputs the result to the second multiplication section and first integration section..

Response to Arguments

Applicant's arguments filed 12/14/2004 have been fully considered but they are not persuasive. Applicant argues that Patton does not disclose a voltage signal and a drive signal but instead uses a VCM as to apply an electrical current. However, the Claim limitations mentions the use of a signal, which is also known as an indicator (from Microsoft Reference tools, See definition of "signal"), therefore, according to the description of "signal" as currently mentioned in the claims, they can be interpreted as indicators (i.e. electrical currents indicate in the drive of any occurrence, being a abnormal fly-height, among many other things well known in the art), unless a more specific description can be specified in the claim limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gpr
April 21, 2005.

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600